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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-fifth Meeting
Montreal, 4–8 December 2024
Item 9(d) of the provisional agenda[1]

PROJECT PROPOSALS: PERU

This document consists of the comments and recommendation of the Secretariat on the following project proposals:

Phase-out

• HCFC phase-out management plan (stage III, first tranche)	UNDP	Individual consideration
• Pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities)	UNEP	Individual consideration

[1] UNEP/OzL.Pro/ExCom/95/1

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Peru

(I) PROJECT TITLE	AGENCY
HCFC phase-out plan (stage III)	UNDP

(II) LATEST ARTICLE 7 DATA (Annex C, Group I)	Year: 2023	14.84 ODP tonnes

(III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes)									Year: 2023
Chemical	Aerosol	Foam	Fire-fighting	Refrigeration		Solvent	Process agent	Lab use	Total sector consumption
				Manufacturing	Servicing				
HCFC-22					14.84				14.84
HCFC-141b in imported pre-blended polyols		0.40							0.40

(IV) CONSUMPTION DATA (ODP tonnes)			
2009-2010 baseline:	26.88	Starting point for sustained aggregate reductions:	54.79
CONSUMPTION ELIGIBLE FOR FUNDING			
Already approved:	18.14	Remaining:	36.65

(V) ENDORSED BUSINESS PLAN		2024	2025	2026	Total
UNDP	ODS phase-out (ODP tonnes)	3.50	0.00	0.00	3.50
	Funding (US $)	305,120	0	0	305,120

(VI) PROJECT DATA			2024	2025	2026	2027	2028	2029	2030	Total
Montreal Protocol consumption limits (ODP tonnes)			17.47	8.74	8.74	8.74	8.74	8.74	0	n/a
Maximum allowable consumption (ODP tonnes)			17.47	8.74	8.74	8.74	8.74	8.74	0	n/a
Project costs requested in principle (US $)	UNDP	Project costs	288,000	0	0	360,000	0	0	72,000	720,000
		Support costs	20,160	0	0	25,200	0	0	5,040	50,400
Total project costs recommended in principle (US $)			288,000	0	0	360,000	0	0	72,000	720,000
Total support costs recommended in principle (US $)			20,160	0	0	25,200	0	0	5,040	50,400
Total funds recommended in principle (US $)			308,160	0	0	385,200	0	0	77,040	770,400

(VII) Request for approval of funding for the first tranche (2024)		
Implementing agency	**Funds recommended (US $)**	**Support costs (US $)**
UNDP	288,000	20,160
Total	288,000	20,160

Secretariat's recommendation:	Individual consideration

PROJECT DESCRIPTION

Background

1. On behalf of the Government of Peru, UNDP as the designated implementing agency has submitted a request for stage III of the HCFC phase-out management plan (HPMP), at the amount of US $839,036, plus agency support costs of US $58,733, as originally submitted.[2] The implementation of stage III of the HPMP will phase out the remaining consumption of HCFCs by 2030.

2. The first tranche of stage III of the HPMP being requested at this meeting amounts to US $335,614, plus agency support costs of US $23,493 for UNDP, as originally submitted.

Status of implementation of stage II of the HCFC phase-out management plan

3. Stage I of the HPMP for Peru was originally approved at the 68th meeting[3] and revised at the 75th meeting[4] to meet the 10 per cent reduction from the baseline by 2015 (with implementation extended to 2016), resulting in the phase-out of 3.74 ODP tonnes of HCFCs, at a total cost of US $282,671, plus agency support costs.

4. Stage II of the HPMP for Peru was approved at the 80th meeting[5] to phase out 14.40 ODP tonnes of HCFCs used in the refrigeration and air-conditioning (RAC) servicing sector. The third tranche of stage II was approved at the 90th meeting and the fourth tranche is expected in 2025. Stage II of the HPMP will be completed by 31 December 2026, as stipulated in the Agreement between the Government of Peru and the Executive Committee.

5. The Government of Peru reported a consumption of 14.84 ODP tonnes of HCFCs in 2023, which is 45 per cent below the HCFC baseline for compliance. The 2018–2023 HCFC consumption is shown in table 1.

Table 1. HCFC consumption in Peru (2018–2023 Article 7 data)

HCFC	2018	2019	2020	2021	2022	2023	Baseline
Metric tonnes (mt)							
HCFC-22	358.52	292.76	223.75	169.39	220.17	269.85	433.29
HCFC-123*	0.00	0.00	0.84	0.79	0.00	0.00	0.00
HCFC-124	0.34	0.00	0.00	0.00	0.00	0.00	2.77
HCFC-141b	0.00	0.00	0.00	0.00	0.00	0.00	16.25
HCFC-142b	1.78	2.41	0.00	0.93	0.00	0.00	18.15
Total (mt)	**360.64**	**295.17**	**224.59**	**171.11**	**220.17**	**269.85**	**470.46**
HCFC-141b in imported pre-blended polyols**	266.22	132.96	43.69	26.54	11.99	0.40	***253.73
ODP tonnes							
HCFC-22	19.72	16.10	12.31	9.32	12.11	14.84	23.85
HCFC-123*	0.00	0.00	0.02	0.02	0.00	0.00	0.00
HCFC-124	0.01	0.00	0.00	0.00	0.00	0.00	0.06
HCFC-141b	0.00	0.00	0.00	0.00	0.00	0.00	1.79
HCFC-142b	0.12	0.16	0.00	0.06	0.00	0.00	1.18
Total (ODP tonnes)	**19.84**	**16.26**	**12.33**	**9.40**	**12.11**	**14.84**	**26.88**
HCFC-141b in imported pre-blended polyols**	29.28	14.63	4.81	2.92	1.32	0.04	***27.91

* HCFC-123 was not consumed before 2015 and, therefore, is not included in the HCFC baseline or in the starting point for aggregated reductions of HCFC consumption.
** Country programme implementation reports.
*** Starting point established in the Agreement for stage II with the Executive Committee.

[2] As per the letter of 27 August 2024 from the Ministry of Production of Peru to UNDP.
[3] Decision 68/35
[4] Decision 75/63(a)(v)
[5] Decision 80/59

6. HCFC consumption in Peru has steadily decreased during the last six years, due to the implementation of activities under the HPMP, including the application of the import/export licensing and quota system, and a gradual transition toward alternative technologies in the RAC sector. In 2019, the relatively larger reduction of HCFC-22 was due to an increase in the price of the refrigerant compared to its alternatives, while the 50 per cent reduction in HCFC-141b contained in imported pre-blended polyols was due to higher imports of similar systems based on HFC, HFO and cyclopentane blowing agents. Furthermore, the effects of the pandemic and an economic depression in the country caused additional reductions in the HCFC imports for 2020 and 2021, while the increased consumption from 2021 to 2023 is due to the demand for servicing of equipment not serviced in the 2020–2021 period.

7. The consumption of HCFC-142b in 2018, 2019 and 2021 is due to minor imports of R-406A related to servicing needs for equipment nearing the end of its life span. Regarding HCFC-124 and HCFC-142b as components of R-409A blends, the most recent imports date back to 2018. With replacement of obsolete equipment due in the short term, imports of R-409A are expected to remain at zero in the coming years.

Country programme implementation report

8. The Government of Peru reported HCFC sector consumption data under the 2023 country programme (CP) implementation report that is consistent with the data reported under Article 7 of the Montreal Protocol.

Status of progress and disbursement

Legal framework and enforcement

9. Peru has an operational HCFC import licensing and quota system, which has been strengthened with an electronic link between the National Ozone Unit (NOU) and the Customs Department to cross-check information on HCFC imports. Supreme decree 019-2021-PRODUCE incorporates the commitments of the Kigali Amendment into the national legislation. All licensed enterprises must figure in the national register of ODS importers, and quotas are assigned by the end of each year based on historical records, with a small margin reserved for contingencies and potential new importers.

10. The country's Technical Committee for Standardization has adopted several standards regarding RAC, including NTP ISO 5149:2020/2021 on safety and environmental requirements for refrigeration systems and heat pumps, NTP ISO 817:2022 on refrigerant designation and safety classification, and NTP ISO 11650:2023 on the performance of refrigerant recovery and/or recycling equipment.

11. In coordination with the Ministry of Labour, a Standard of Labour Competency in Good Practices in Refrigeration and Air-Conditioning (RDG No. 072-2020-MTPE/3/19) and evaluation instruments (RDG No. 095-2021-MTPE/3/19) have been approved.

12. Training on the updated Harmonized System (HS) codes was provided to 391 customs officers, customs brokers, and importers. One hundred and three (103) customs officers were trained on controls for HCFCs and HCFC-based equipment, and on measures to prevent illegal trade, including risk management procedures. Customs checkpoint officers received official notes on controls for ozone-depleting substances (ODS) and ODS-based equipment together with a Customs Officer's Quick Tool for screening ODS; two multi-refrigerant identifiers were procured and delivered to customs; the electronic HCFC licensing system was migrated to a single window platform for imports; and new tariff codes were implemented to improve the monitoring of substances controlled under the Montreal Protocol, as of 2022.

Refrigeration servicing sector

13. During stage II, the following activities have been implemented so far:

(a) *Application of good refrigeration practices and procedures in the use of alternative refrigerants with low global-warming potential (GWP)*: 35 sets of equipment, tools and instruments for handling flammable refrigerants and for recovery of refrigerants were procured and delivered to the Peruvian Association of Refrigeration, Air-Conditioning and Ventilation; 613 servicing technicians were trained in good refrigeration servicing practices and the use of low-GWP refrigerants; 164 technicians were trained in virtual workshops on electronics applied in the RAC sector, the safe handling of hydrocarbon (HC), ammonia, and transcritical carbon dioxide (CO_2), good practices, and refrigerant recovery and recycling (RR); two training video modules and two training manuals were issued, both on good practices in refrigeration, including flammable refrigerants, specialized welding, and monitoring of leaks; 27 technicians were trained in safe handling of hydrocarbon refrigerants; and digital technical brochures were designed on good refrigeration practices, specialized refrigeration soldering, applied electronics and regulations and safe handling of natural refrigerants;

(b) *Technical and institutional support for the operationalization of the certification system:* 23 instructors were trained under the labour competency standard; representatives of the NOU and four technical training institutes conducted a study tour to Colombia on certification procedures; the Labor Competency Standard for Good Practices in Refrigeration and Air-Conditioning was updated and approved in the first half of 2024 to promote the start of certification in the country;

(c) *Technical assistance for the adoption of safety standard:* Approval of two ISO standards on refrigerant classification and RR approved, with four other ISO standards under review;

(d) *Strengthening formal education for refrigeration technicians*: All the National Industrial Work Training Service (SENATI) centres updated their syllabi in 2020 to incorporate good practices in handling HCFCs and low-GWP alternative refrigerants, including zero/ low-GWP refrigerants; tools and equipment to strengthen three selected RAC technical training institutes were procured and delivered;

(e) *Establishment of the refrigerant recovery and recycling centres*: Acquisition, delivery, set-up and training in the use of equipment for the operation of five RR centres in relevant locations; seven virtual training workshops on RR were held for 130 RAC technicians;

(f) *Technical assistance for the adoption of low-GWP technologies in commercial refrigeration end users*: A desk review of end users from the supermarket, agroindustry, and warehouse sectors was undertaken to identify the stakeholders and technical requirements for the conversion/replacement of HCFC-based RAC systems in key sectors with transcritical CO_2; technical assistance was provided to three companies selected to promote refrigeration technologies based on CO_2, including technical visits to verify data and estimate costs for the technological conversion of refrigeration equipment with HCFCs; and a series of webinars were held for the promotion of alternative refrigerants (66 participants) and the promotion of cleaner production (38 participants);

(g) *Public awareness programme to promote HCFC phase-out*: Several virtual and in-person awareness-raising seminars on HCFC phase-out and low-GWP alternatives were held for a total of 1,105 participants from main stakeholders; digital material on low-GWP alternatives for RAC equipment, certification of technicians, RR, and country

commitments for HCFC phase-out was developed and socialized. Nine virtual or in-person seminars on low-GWP alternatives and HCFC phase-out were attended by 803 participants.

Level of fund disbursement

14. As of June 2024, of the US $1,320,700 approved so far for the first three tranches of stage II, US $689,903 (52 per cent) had been disbursed. The balance of US $630,797 will be disbursed up to 2026 as per the Agreement.

Stage III of the HCFC phase-out management plan

Remaining consumption eligible for funding

15. After deducting 3.74 ODP tonnes of HCFCs associated with stage I, 14.40 ODP tonnes of HCFC-22 with stage II, as well as 0.06 ODP tonnes of HCFC-124, 1.18 ODP tonnes of HCFC-142b and 27.87 ODP tonnes of HCFC-141b in imported pre-blended polyols phased out without support from the Multilateral Fund, the remaining consumption eligible for funding in stage III amounts to 7.50 ODP tonnes of HCFC-22 and 0.04 HCFC-141b in imported pre-blended polyols, as shown in table 2.

Table 2: Overview of the remaining HCFC consumption eligible for funding (ODP tonnes)

HCFC	Starting point	Reduction achieved in stage I	Remaining consumption after stage I	Reduction achieved in stage II	Remaining consumption after stage II	Reduction to be achieved in stage III	Remaining consumption after stage III
HCFC-22	23.85	1.95	21.90	14.40	7.50	7.50	0.00
HCFC-123	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HCFC-124	0.06	0.00	0.06	0.06	0.00	0.00	0.00
HCFC-141b	1.79	1.79	0.00	0.00	0.00	0.00	0.00
HCFC-142b	1.18	0.00	1.18	1.18	0.00	0.00	0.00
HCFC-141b in imported pre-blended polyols	27.91	0.00	27.91	27.87	0.04	0.04	0.00
Total (ODP tonnes)	**54.79**	**3.74**	**51.05**	**43.51**	**7.54**	**7.54**	**0.00**

Sector distribution of HCFCs

Polyurethane foam manufacturing

16. Peru has not imported HCFC-141b since 2018 because there is no quota for that substance. Currently, imports of HCFC-141b contained in pre-blended polyols are near zero. Polyurethane (PU) foam products are entirely dependent on the import of polyols from foreign systems houses, which are mainly supplying HFC-based polyol systems.

RAC servicing

17. In 2022 and 2023, HCFC-22 was the sole HCFC imported and remains utilized only in the RAC servicing sector for unitary and split systems, commercial AC, medium and large condensing units, and centralized systems, commercial and industrial refrigeration and refrigerated transport, as shown in table 3. In 2023, HCFC-22 represented 15 per cent of the refrigerants used in the servicing sector, along with,

HFC-134a (25 per cent), R-410A (18 per cent), low-GWP refrigerant alternatives[6] (16 per cent), R-507A (14 per cent), R-404A (8 per cent), and other HFCs[7] (3 per cent).

Table 3. Estimate of demand for HCFC-22 in the RAC servicing sector in Peru

Sector/Application		(a) Equipment inventory	(b) Average charge (kg)	(c)=(a)*(b) HCFC bank (mt)	(d) Estimated bank refilling during servicing (%)	(c)*(d) Annual need for servicing (mt)
Room AC (unitary and split)		630,000	0.90	567.0	16	90.72
Commercial AC	Autonomous units	220,000	1.80	396.0	24	95.04
	Condenser units	8,569	14.00	120.0	24	28.79
	Centralized systems	800	3.40	2.7	40	1.08
Chillers		580	80.00	46.4	25	11.60
Commercial refrigeration		625,000	0.31	193.8	18	33.91
Industrial refrigeration		905	20.00	18.1	25	4.53
Refrigerated transport		3,221	3.35	10.8	35	3.78
Total		**1,489,075**		**1,354.7**		**269.45**

18. The servicing sector in Peru involves approximately 6,000 technicians and 1,650 workshops, and the enterprises are divided into two main groups, the first working with air-conditioning (AC), and the other with refrigeration appliances. About 1,500 workshops employ between one and five technicians, and only 150 workshops nationwide are staffed with more than five technicians. An estimated two out of five technicians employed in the RAC servicing sector are formally trained. Technical courses on the construction, installation, maintenance, and adjustment of RAC equipment and systems in compliance with the established safety and quality standards are offered by the main RAC training institutes in Peru,[8] with enrolment of approximately 1,300 students per year.

Phase-out strategy

19. Stage III of the HPMP will focus on strengthening the legal framework to control HCFC and HCFC-based equipment, strengthening the refrigerant recovery, recycling and reclamation (RRR) network in coordination with KIP activities, promoting the transition to technologies with low global-warming potential (GWP) in the RAC sector, implementing legal instruments related to the safe use of new technologies, further strengthening the capacity of the servicing sector, providing training on good refrigeration practices and procedures in the use of low-GWP refrigerants, and establishing a certification scheme for technicians.

Proposed activities

20. Stage III proposes the following activities:

Table 4. Activities proposed for implementation in the servicing sector under stage III of the HPMP

#	Activities and sub-activities	Total Cost (US $)
1.	**Strengthening the legal framework and enforcement**	
1.1	*Strengthening the legal framework and trade control to achieve total HCFC phase-out:* Update HCFC consumption quotas; conduct an assessment in order to review and update the existing	50,000

[6] Including R-717, R-600a, and R-290.
[7] Including HFC-23, HFC-32, HFC-152a, R-407C, and R-422D.
[8] i.e., SENATI, GAMOR, TECSUP, School of Refrigeration Peru and Julio Tello Technical Institute.

#	Activities and sub-activities	Total Cost (US $)
	regulatory framework, including a ban on HCFC imports[9] and equipment containing HCFCs from 1 January 2030; create an inter-institutional HCFC Trade Control Committee for improved HCFC trade monitoring, and the control and prevention of illegal trade; and train 60 customs officers and clearing agents on country commitments, control measures for HCFCs and HCFC-based equipment, adequate use of HS codes, support documents and equipment associated with the control of HCFCs; and design and printing of training materials.	
1.2	*Expansion of the technician certification strategy:* Establishment of at least one labour competency standard for the safe handling of HC as a refrigerant, including design and printing of the standard; develop and implement an information strategy for its promotion; and certify at least 40 technicians.	60,000
1.3	*Promotion of gender inclusion:* Hire a consultant to support designing and implementing an action plan to incorporate the gender perspective in stage III activities and promote the participation of women in decision-making bodies; establish the baseline of women in the RAC sector and do follow-up to changes obtained during the implementation of tranches; and organize four women's empowerment and leadership training workshops for women participating in stage III at different levels.	30,000
	Subtotal Component 1	*140,000*
2.	**Elimination of HCFC consumption in the servicing sector**	
2.1	*Training for RAC technicians:* Revise the current training curricula for introducing alternative technology, with an emphasis on leakage control, the use of appropriate tools for maintenance, training in the use of electronic instrumentation and the preservation of energy efficiency during the servicing of RAC equipment; develop at least five national workshops for 30 trainers and 480 technicians under the revised curricula; and provide 50 servicing workshops/technician associations with equipment and tools[10] for leakage control and other tools for good practices.	180,000
2.2	*Strengthen technician training institutes:* Selection of two RAC training institutes for the provision of new kits[11] of training equipment and updated training guides, procurement of the kits and training 60 trainers in their use and related topics.	75,000
2.3	*Strengthening the recovery and recycling centres and setting up reclamation centres:* Evaluate the status of the RR network and draft a business model to expand it towards a self-sustainable RRR network; set up two new refrigerant RR centres; install two reclaim centres by 2029; design an outreach strategy to achieve the incorporation of additional technicians, workshops and RAC companies into the RR network and organize two workshops to promote RRR to an audience of 60 main stakeholders.	240,000
2.4	*Encouraging the adoption of low-GWP alternatives by end users:* Develop three workshops for a total of 120 end users on low-GWP alternative technologies with the support of an international expert; and design of a guide for the selection of low-GWP alternatives to HCFC-22 to allow commercial and industrial RAC end users to engage in informed acquisition of future equipment.	65,000
	Subtotal Component 2	*560,000*
3.	**Awareness-raising**	
3.1	*Dissemination of and awareness-raising of the total phase-out of HCFC:* Develop and implement a communication strategy aimed at end users, refrigerant and HCFC-based	62,760

[9] Including the development of a policy framework to implement measures ensuring that HCFC consumption post-2030 follows the provisions of the Montreal Protocol for the servicing tail.

[10] 100 units of 30 lb recovery cylinders and 50 units of recycling equipment with oil separation and filtration, vacuum pumps with a capacity of 5 cfm, electronic refrigerant scale 55 kg, oxygen and acetylene portable welding set, electronic leak detector for HCFC, HFC and HC, tools, 4-way ball valve manifold, digital vacuum gauge, other measurement instruments and personal protection equipment.

[11] Four refrigerant fluid identifiers, eight units for refrigerant recycling with oil separator and filter, two liquid refrigerant transfer pumps, four 5 cfm vacuum pumps, 36 recovery cylinders of different capacities (30 and 50 lb), four R-290-based AC splits, four refrigerant leak detectors for HCFC, HFC and HC, four portable welding sets, four Lokring and Lokclip starter kits, four refrigerant leak detectors for HCFC, HFC and HC, Nitrogen kits (tank, regulator and cart), four mid-size bench vises, four electronic scales, laboratory supplies, tools, measurement instruments and personal protection equipment.

#	Activities and sub-activities	Total Cost (US $)
	equipment importers, suppliers and RAC technicians; design and implement five annual digital content outreach campaigns through infographics and flyers uploaded on the websites of RAC associations and end-user companies, promoting the replacement of RAC equipment with HCFC-22 by low-GWP alternatives, including brochures and audiovisual materials.	
	Subtotal Component 3	*62,760*
Total HPMP Stage III activities		**762,760**
Project Monitoring and Coordination		*76,276*
Grand Total		**839,036**

Project implementation and monitoring

21. The system established under stages I and II of the HPMP will continue into stage III, with the NOU and UNDP monitoring activities, reporting on progress, and working with stakeholders to phase out HCFCs. The cost of those activities for UNDP amounts to US $76,276, and includes project staff and consultants (US $56,276), meetings with stakeholders (US $5,000) and two verification reports (US $15,000).

Gender policy implementation

22. In line with decisions 84/92(d), 90/48(c) and 92/40(b), stage III of the HPMP will prioritize gender equality throughout all implementation tranches. This includes ensuring women's participation in decision-making processes, hiring consultants and experts with a commitment to gender balance, and promoting equitable participation in training and capacity-building activities. UNDP has confirmed that the Government of Peru will monitor project outcomes and report on all mandatory gender mainstreaming indicators established by the Multilateral Fund in the stage III progress reports and tranche requests. These indicators will encompass the number of women and men employed through the project, the experts and contractors trained in gender mainstreaming, quantitative data disaggregated by sex for activities undertaken, and changes in the baseline of women in the RAC sector. Additionally, the reports will highlight information material developed with a gender focus, and the women's empowerment and leadership training workshops.

Total cost of stage III of the HCFC phase-out management plan

23. The total cost of stage III of the HPMP for Peru has been estimated at US $839,036 (plus agency support costs), as originally submitted, for achieving a 100 per cent reduction from its HCFC baseline by 2030. The proposed activities and cost breakdown are summarized in table 4 above.

Implementation plan for the first tranche of stage III of the HCFC phase-out management plan

24. As requested, the first funding tranche of stage III of the HPMP in the total amount of US $335,614 will be implemented between 1 January 2025 and 31 December 2027 and will include the following activities:

(a) *Strengthening the legal framework and trade control to achieve total HCFC phase-out*: Train of 60 customs officers and clearing agents on country commitments, control measures for HCFCs and HCFC-based equipment, adequate use of HS codes, support documents and equipment associated with the control of HCFCs; and design and printing of training materials (US $20,000);

(b) *Training RAC technicians*: Revise the current training curricula for introducing alternative technology, with an emphasis on leakage control, the use of appropriate tools for maintenance, training in the use of electronic instrumentation and the preservation of

energy efficiency during the servicing of RAC equipment; develop two workshops for 30 trainers each under the revised curricula; and provide 22 servicing workshops/technician associations with equipment and tools for leakage control and other tools for good practices (US $72,000);

(c) *Strengthening technician training institutes:* Select one RAC training institute for the provision of new kits of training equipment and updated training guides, procurement of the kits and training 30 trainers on their use and related topics (US $30,000);

(d) *Strengthening the recovery and recycling centres and setting up reclamation centres:* Evaluate the status of the RR network and draft a business model to expand it towards a self-sustainable RRR network; set up one new refrigerant RR centre; design an outreach strategy to achieve the incorporation of additional technicians, workshops and RAC companies into the RR network and organize two workshops to promote RRR to an audience of 60 main stakeholders (US $132,200);

(e) *Encouraging the adoption of low-GWP alternatives by end users:* Develop one workshop for 30 end users on low-GWP alternative technologies with the support of an international expert; and design a guide for the selection of low-GWP alternatives to HCFC-22 to allow commercial and industrial RAC end users to engage in informed acquisition of future equipment (US $24,300);

(f) *Dissemination and awareness of the total phase-out of HCFC*: Develop and implement a communication strategy to end users, refrigerant and HCFC-based equipment importers, suppliers and RAC technicians; design and implement five annual digital content outreach campaigns through infographics and flyers uploaded on the websites of RAC associations and end-user companies, promoting the replacement of RAC equipment with HCFC-22 by low-GWP alternatives, including brochures and audiovisual materials (US $26,604); and

(g) *Project coordination and monitoring* includes project staff and consultants (US $21,010), meetings with stakeholders (US $2,000) and one verification report (US $7,500) (total US $30,510).

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

25. The Secretariat reviewed stage III of the HPMP in light of stages I and II, the policies and guidelines of the Multilateral Fund, including the criteria for funding HCFC phase-out in the consumption sector for stage II of HPMPs (decisions 74/50 and 90/31), stage I of the KIP, and the 2024–2026 business plan of the Multilateral Fund.

Overarching strategy

26. The Government of Peru proposes to meet the 100 per cent reduction of its HCFC baseline consumption by 2030, and to maintain a maximum annual consumption of HCFCs in the period 2030–2040 at a level consistent with Article 5, paragraph 8 ter(e)(i) of the Montreal Protocol.[12] The Government of Peru is committed to continue establishing strict import and control methods to monitor the levels of import

[12] HCFC consumption may exceed zero in any year so long as the sum of its calculated levels of consumption over the ten-year period from 1 January 2030 to 1 January 2040, divided by 10, does not exceed 2.5 per cent of the HCFC baseline.

and the uses of HCFCs during that period to ensure that they are limited to the conditions established by the Montreal Protocol.

27. In line with decision 86/51, to allow for consideration of the final tranche of its HPMP, the Government of Peru agreed to submit a detailed description of the regulatory and policy framework in place to implement measures to ensure that HCFC consumption is in compliance with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol for the period 2030–2040. Furthermore, if Peru intends to have consumption during the period 2030–2040, in line with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol, the Government agreed to submit proposed modifications to its Agreement with the Executive Committee covering the period beyond 2030.

Legal framework

28. The Government of Peru has already issued the HCFC import quotas for 2024 and 2025 at 14.7 and 8.74 ODP tonnes, respectively, which is in accordance with the Montreal Protocol control targets.

Technical and cost-related issues

PU foam manufacturing

29. Given the current circumstances, the Government of Peru has decided not to include in the submission a project to phase out HCFC-141b in polyols but may submit a project to phase out the use of HFCs contained in imported premixes in the PU foam sector when a cost-effective and commercially available low-GWP technology makes it possible and subject to a decision by the Executive Committee on whether it would fund the phase-down of HFCs contained in imported pre-blended polyols to be discussed in accordance with decision 93/73(b)(iv).

Recovery and recycling network operations

30. In response to the Secretariat's question on the RR network operations, UNDP reported that there are five operational RR centres installed in three main cities in the country (Lima, Piura and Arequipa). UNDP added that these centres are managed by three companies providing RAC services, and that periodical reports on their operations are sent to the NOU for monitoring purposes. Currently the service is neither free nor subsidized. The technicians pay for the service offered by one of the RR centres which covers its own operation costs. There are three recovery units managed by each of the five centres and 35 additional recovery units are managed through the association of technicians (50 in total). With that infrastructure, 157.04 kg HCFC-22, 5.01 kg HFC-134a, 66.80 kg R-410A, 13.10 kg R-404A, and 25 kg CFC-11 were recovered. Furthermore, CFC-11 was sent for storage to the facilities of one of the RR centres located in Lima (AMICO SERVIZI GENERALI) and is awaiting final disposal. UNDP and the NOU are preparing a national inventory of unwanted controlled substances and a plan of action to manage these substances in the country.

31. The Secretariat consulted with UNDP on the reasons for the low volume in the recovery of refrigerants. UNDP explained that the practice of venting refrigerants was still widespread in the country due to many factors: the wide availability of refrigerants, technicians not practicing refrigerant recovery, or refrigerant charges leaking entirely before servicing in certain cases. Therefore, intense awareness and training on RR would be carried out as part of the HPMP and KIP implementation. UNDP noted the Secretariat suggestion of including a mandatory registry of large end users and banning the intentional release of refrigerants, in the assessment of the existing regulatory framework.

Certification of servicing technicians

32. In the first half of 2024, the update of the Labor Competency Standard of Good Refrigeration and Air-Conditioning Practices was approved. Furthermore, 23 instructors were trained under the labour competency standard, the main training centres had updated their syllabi and almost 400 technicians were trained in good refrigeration servicing practices and low-GWP refrigerants. The Secretariat enquired about the challenges preventing the certification of technicians, which had not yet begun. UNDP responded that the standardization of the certification system across the country and the authorization of certification centres were still in progress and expected to be completed as part of the implementation of the second tranche of stage II.

Simultaneous implementation of the HPMP and the KIP

33. Regarding the coordination of activities between the HPMP and the KIP, UNDP explained that stage III of the HPMP represents the final step in the total phase-out of HCFCs and is designed to align with the ongoing activities under stage II of the HPMP and stage I of the KIP. All these activities are to be implemented in a simultaneous and coordinated manner, to maximise synergies and avoid overlapping of activities. During this phase, servicing technicians and workshops will face significant challenges, such as managing HCFCs, HFCs, and low or zero-GWP refrigerants—including blends. This complexity necessitates careful operations to prevent refrigerant cross-contamination, as well as safe handling of flammable, high-pressure, or toxic alternatives. Consequently, special measures must be in place throughout the refrigerant's lifecycle, including transportation, storage, charging, equipment maintenance, recovery, and disposal. In certain RAC sectors, low-GWP alternatives may not be available or affordable, making training in containment and best refrigeration practices essential. This training should also encompass all HFC refrigerants and be paired with a robust containment strategy to extend refrigerant life within the equipment. Therefore, the NOU and UNDP would ensure effective coordination between stage III of the HPMP and stage I of the KIP.

34. UNDP added that stage III of the HPMP will facilitate the replacement of existing equipment with other equipment based on low-GWP alternatives and energy-efficient technologies. Stage I of the KIP will provide the necessary expertise to support the adoption of these technologies. RAC technicians must acquire new skills relevant to these advancements, necessitating more specialized and extended training programmes with appropriate equipment. In order to ensure the special needs to handle different low-GWP technologies, a certification system is developed for stage III of the HPMP which complements that of stage I of the KIP.

Total project cost

35. Initially, UNDP had calculated the total cost based on 8.74 ODP tonnes[13] eligible for funding. However, HCFC-124 and HCFC-142b are no longer used in the country. Consequently, according to the agreement between the Executive Committee and the country for stage II of the HPMP, HCFC-22 amount eligible for funding is 7.50 ODP tonnes, which is the sole HCFC being used in the country. Furthermore, 27.87 out of 27.91 ODP tonnes of HCFC-141b contained in imported pre-blended polyols were phased out during the implementation of stage II without support from the Multilateral Fund and the country also confirmed that it will not request support to phase out the remaining 0.04 ODP tonnes for stage III.

[13] The remaining eligible consumption of HCFC-22 in servicing activities amounts to 7.50 ODP tonnes, as per the Agreement with the Executive Committee for implementing stage II (annex XVII, UNEP/OzL.Pro/ExCom/80/59). However, UNDP had transferred remaining eligible consumption from HCFC-124 and HCFC-142b to HCFC-22, and initially requested US $762,760 plus 10 per cent for the monitoring and implementation, resulting in US $839,036.

36. The total cost for stage III of the HPMP was agreed in the amount of US $720,000,[14] based on decision 74/50 on the eligible funding level for a non-low-volume-consuming country.

37. After the revision of the total cost for stage III, it is proposed to set up one new refrigerant RR centre and one reclaim centre instead of two. Furthermore, UNDP proposed a recalculation of the cost for awareness-raising and the adjustment of the budget for monitoring, evaluation and reporting. The Secretariat agreed with those changes. Table 5 shows the requested and agreed costs of stage III.

Table 5: Requested and agreed cost of stage III of the HPMP for Peru

	Component/Activities	Cost (US $)	
		Requested	Agreed
1	**Strengthening the legal framework and enforcement**		
1.1	Strengthening the legal framework and trade control to achieve total HCFC phase-out	50,000	50,000
1.2	Expansion of the Technician Certification strategy	60,000	60,000
1.3	Promotion of gender inclusion	30,000	30,000
	Component 1 Subtotal	*140,000*	*140,000*
2	**Elimination of HCFC consumption in the servicing sector**		
2.1	Training for RAC technicians	180,000	180,000
2.2	Strengthen technician training institutes	75,000	75,000
2.3	Strengthening the RR centres and setting up one reclamation centre	240,000	**131,545**
2.4	Encouraging the adoption of low-GWP alternatives by end users	65,000	65,000
	Component 2 Subtotal	*560,000*	***451,545***
3	**Awareness raising**		
3.1	Dissemination of and awareness-raising of the total phase-out of HCFC	62,760	**63,000**
	Component 3 Subtotal	*62,760*	***63,000***
4	**Monitoring, evaluation and reporting**		
4.1	Project Monitoring and Coordination	76,276	**65,455**
	Component 5 Subtotal	*76,276*	***65,455***
TOTAL		**839,036**	**720,000**

Tranche request distribution

38. As initially submitted, UNDP requested a two-tranche distribution of the budget for stage III. After discussions between the Secretariat and the implementing agency on the application of decision 62/17, a third tranche was included for 2030. However, UNDP requested that the second and third tranche requests for stage III be submitted at the first meetings of the Executive Committee in 2027 and 2030, instead of the second meeting, so that the country would have enough time to implement the activities of the third tranche and maximize its impact on the 2030 target. Table 6 below includes the initial request and the agreed funds and implementation period, by tranche.

Table 6: Budget distribution and implementation period per tranches

	First tranche (2024)		Second tranche (2027)		Third tranche (2030)		Total	
	Requested	Agreed	Requested	Agreed	Requested	Agreed	Requested	Agreed
Implementation (from – to)	Jan 2025 - Dec 2027	Jan 2025 - Jun 2027	Jan 2028 - Dec 2031	Jul 2027 - Jun 2030	n/a	Jul 2030 - Dec 2031	Jan 2025 - Dec 2031	Jan 2025 - Dec 2031
Total (US $)	335,614	**288,000**	538,662	**360,000**	0	**72,000**	839,036	**720,000**
Percentage	40	**40**	60	**50**	0	**10**	**100**	**100**

[14] The remaining HCFC-22 in servicing activities amounts to 7.50 ODP tonnes; therefore, the consumption eligible for funding multiplied in metric tonnes by 4.8 US $/kg plus 10 per cent for monitoring and implementation is equal to US $720,000.

Revised implementation plan for the first tranche

39. Under the revised cost of US $288,000 for the first tranche, activity costs and expected outputs were all rationalized in light of the pending activities for the third tranche of stage II, availability of funds, and the country priorities. As a result, the revised implementation plan for the first tranche was agreed as follows:

(a) *Strengthening the legal framework and trade control to achieve total HCFC phase-out*: Training of 60 customs officers and clearing agents on country commitments, control measures for HCFCs and HCFC-based equipment, adequate use of HS codes, and technology/equipment associated with the control of HCFCs; design and printing of training materials (US $22,000);

(b) *Expanding the technician certification strategy:* Establishment of at least one labour competency standard for the safe handling of HC as a refrigerant, including the design and printing of the standard; and developing and implementing an information strategy to promote the standard (US $28,000);

(c) *Promoting gender inclusion:* Hire a consultant to support designing and implementing an action plan to incorporate the gender perspective in stage III activities and to promote the participation of women in decision-making bodies; establish the baseline of women in the RAC sector and follow up on the changes obtained during the implementation of the tranche; and organize one women's empowerment and leadership training workshop for women participating in stage III at different levels (US $13,000);

(d) *Training RAC technicians*: Revise the current training curricula to introduce alternative technology, with an emphasis on leakage control, the use of appropriate tools for maintenance, training in the use of electronic instrumentation and the preservation of energy efficiency during the servicing of RAC equipment; develop two workshops for 30 trainers each under the revised curricula; and provide 25 servicing workshops/technician associations with equipment and tools for leakage control and other tools for good practices (US $88,000);

(e) *Strengthening the technician training institutes:* Select one RAC training institute for the provision of new training equipment kits and updated training guides, procurement of the kits and training 30 trainers on their use and related topics (US $35,000);

(f) *Strengthening the recovery and recycling centres and setting up reclamation centres:* Evaluate the status of the RR network and draft a business model to expand it towards a self-sustainable RRR network, including the identification of potential beneficiaries (US $17,000);

(g) *Encouraging the adoption of low-GWP alternatives by end users:* Develop one workshop for 30 end users on low-GWP alternative technologies with the support of an international expert; and design a guide for the selection of low-GWP alternatives to HCFC-22 to allow commercial and industrial RAC end-users to engage in informed acquisition of future equipment (US $35,000);

(h) *Dissemination and awareness of the total phase-out of HCFC*: Develop and implement a communication strategy to end users, refrigerant and HCFC-based equipment importers, suppliers and RAC technicians; design and implement five annual digital content outreach campaigns through infographics and flyers uploaded on the websites of RAC associations

and end-user companies, promoting the replacement of RAC equipment with HCFC-22 by low-GWP alternatives, including brochures and audiovisual materials (US $25,000); and

(i) *Project coordination and monitoring* includes project staff and consultants (US $15,000), meetings with stakeholders (US $2,500) and one verification report (US $7,500) (total US $25,000).

Impact on the climate

40. The activities proposed in the servicing sector, which include better containment of refrigerants through training and the provision of equipment, will reduce the amount of HCFC-22 used for RAC servicing in the country. Each kilogram of HCFC-22 not emitted due to better refrigeration practices results in savings of approximately 1.8 CO_2-eq tonnes. A calculation of the impact on the climate was provided in the HPMP. The activities planned by Peru, including efforts to promote low-GWP alternatives as well as refrigerant recovery and re-use, indicate that the implementation of stage III of the HPMP will reduce the emission of refrigerants into the atmosphere, resulting in climate benefits.

Sustainability of the HCFC phase-out and assessment of risks

41. The commitments and activities of stage III of the HPMP will be sustained over time with the implementation and strengthening of the licensing and quota system for HCFCs; the review and update of the existing regulatory framework to ban HCFC and equipment containing HCFCs; the expansion of the labour competency framework as well as the provision of tools and equipment to servicing technicians and vocational schools; awareness-building for end users on low-GWP alternatives; and continuous monitoring of all implemented activities.

42. Although the allowed consumption for 2025 is 36 per cent lower than the country's current consumption, the 2025 country demand for HCFCs would be covered by different approaches, and the risk of non-compliance or illegal trade imports is dismissed. In addition to the import quotas allocated per importer, Peru will implement different approaches for non-compliance risk management, such as awareness and information outreach to promote the replacement of HCFC-22-based RAC equipment by low-GWP and energy-efficient technology; and RRR activities that could help end users by providing recycled HCFC-22. Some end users may also have some quantities of HCFC-22 in storage to cover any unexpected consumption needs.

43. Potential risks to the timely implementation of activities include delays in the procurement of equipment and tools, which will be addressed by planning procurement in advance while making use of UNDP’s regional long-term agreement to facilitate and speed up the procurement process, and by conducting regular meetings and following up with decision makers to maintain political will and expedite decisions. The risk of low market availability of alternative technologies will be addressed by searching for suppliers during field visits, fairs, and technical training, to ensure an ample offer of tools and equipment.

Co-financing

44. The Government will provide in-kind co-financing through the provision of staff, office space and storage space, communication and internet services, transportation, administration, and other necessities. The communication office will also provide support and visibility to the awareness-raising activities carried out within the framework of the project through all its channels. Furthermore, the Government, training institutions and other stakeholders will provide their technical and logistical capabilities to implement programs and projects for RAC servicing and end-user sectors.

2024–2026 draft business plan of the Multilateral Fund

45. UNDP is requesting US $720,000, plus agency support costs, for the implementation of stage III of the HPMP for Peru. The total requested value of US $308,160 for the first tranche, including agency support costs for the period of 2024–2026, is US $3,040 above the amount in the business plan.

Draft Agreement

46. A draft Agreement between the Government of Peru and the Executive Committee for stage III of the HPMP is contained in annex I to the present document.

RECOMMENDATION

47. The Executive Committee may wish to consider:

(a) Approving, in principle, stage III of the HCFC phase-out management plan (HPMP) for Peru for the period from 2024 to 2030 for the complete phase-out of HCFC consumption, in the amount of US $720,000, plus agency support costs of US $50,400 for UNDP, on the understanding that no more funding from the Multilateral Fund will be provided for the phase-out of HCFCs;

(b) Noting the commitment of the Government of Peru:

(i) To completely phase out HCFCs by 1 January 2030, except for those allowed for a servicing tail between 2030 and 2040, where required, consistent with the provisions of the Montreal Protocol;

(ii) To ban the import of HCFCs and HCFC-based equipment by 1 January 2030;

(c) Deducting 36.65 ODP tonnes of HCFCs from the remaining HCFC consumption eligible for funding;

(d) Approving the draft Agreement between the Government of Peru and the Executive Committee for the reduction in consumption of HCFCs, in accordance with stage III of the HPMP, contained in annex I to the present document;

(e) That, to allow for consideration of the final tranche of its HPMP, the Government of Peru should submit:

(i) A detailed description of the regulatory and policy framework in place to implement measures to ensure that HCFC consumption is in compliance with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol for the period 2030–2040;

(ii) If Peru were intending to have consumption during the period 2030–2040, in line with paragraph 8 ter(e)(i) of Article 5 of the Montreal Protocol, proposed modifications to its Agreement with the Executive Committee covering the period beyond 2030; and

(f) Approving the first tranche of stage III of the HPMP for Peru, and the corresponding tranche implementation plan, in the amount of US $288,000, plus agency support costs of US $20,160 for UNDP.

PROJECT EVALUATION SHEET – NON-MULTI-YEAR PROJECT

Peru

PROJECT TITLE	BILATERAL/IMPLEMENTING AGENCY
Pilot project to maintain and enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities)	UNEP

PROJECT OBJECTIVE

The pilot project seeks to promote energy efficiency and environmental sustainability in the refrigeration and air-conditioning (RAC) sector and to encourage the adoption of policies that facilitate the integration of energy-efficient technologies, particularly in light of the HFC phase-down in Peru. Key efforts include enhancing coordination among national stakeholders to support low-GWP alternatives, advancing the adoption of energy-efficient solutions in commercial refrigeration, and ensuring these technologies are scalable and replicable and raising awareness among users about the available RAC technology options, their long-term cost benefits, and their environmental impacts.

NATIONAL COORDINATING AGENCY	The General Directorate of Environmental Affairs of Industry of the Ministry of Production of Peru (PRODUCE) through the National Ozone Unit (NOU)

LATEST ARTICLE 7 DATA (Annex F)	**Year:** 2023	1,262.86 Mt	3,075,377 CO_2-eq tonnes

Particular	Non-investment activities
Project duration (months):	36
Initial amount requested (US $):	115,000
Final project costs (US $):	115,000
Requested grant (US $):	115,000
Implementing agency support costs (US $):	14,950
Total cost of project to Multilateral Fund (US $):	129,950
Status of counterpart funding (Y/N):	N
Project monitoring milestones included (Y/N):	Y
Minimum energy performance standards (MEPS) available for the relevant sector (Y/N):	N

SECRETARIAT'S RECOMMENDATION	Individual consideration

PROJECT DESCRIPTION

Background

48. At its 93rd meeting the Executive Committee approved stage I of the Kigali HFC implementation plan (KIP), in the amount of US $628,998, plus agency support costs to assist Peru in meeting the target of 10 per cent reduction from its HFC baseline consumption by 1 January 2029.

49. On behalf of the Government of Peru, UNEP has submitted, in line with decision 91/65, a request for a pilot project to maintain and enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities), in the amount of US $115,000, plus agency support cost of US $14,950, as originally submitted.[15]

Energy-efficiency pilot project

Policy, regulatory and institutional framework

50. The General Directorate of Industrial Environmental Affairs, located within the Ministry of Production (PRODUCE), hosts the NOU and is responsible for the implementation of the Montreal Protocol in Peru, including the coordination of activities to reduce consumption of controlled substances. The Government of Peru ratified the Kigali Amendment on 7 August 2019, and the country has an effective HFC licensing and quota system. The submitted pilot project is intended to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down.

51. The General Directorate of Energy Efficiency, located within the Ministry of Energy, is in charge of proposing energy-efficiency policies, promoting a culture of rational and efficient energy use, designing and proposing energy-efficiency programs, and incentivizing the energy-efficiency market, among other functions. National regulations relating to energy efficiency include measures to establish labelling requirements for all electrical appliances based on energy use, including RAC equipment; and measures to establish energy consumption indicators and monitoring methodologies.

HFC consumption

52. The HFC consumption baseline for Peru has been established at the level of 2,735,721 CO_2-equivalent (CO_2-eq) tonnes. HFC consumption in the country is presented in table 7.

Table 7. Consumption of HFCs in Peru (2019–2023)

HFC consumption	2019	2020	2021	2022	2023
Total (mt)	803.20	927.96	682.68	1,074.09	1,262.86
Total (CO_2-eq tonnes)	1,910,807	2,179,188	1,605,215	2,785,607	3,075,377

53. HFC consumption in Peru has grown in recent years as a result of increasing demand for RAC equipment paired with HCFC phase-out. Barring the sharp drop in 2021 due to the COVID-19 pandemic, HFC consumption has shown steady growth over the last decade and was boosted in 2022 and 2023. As the country is currently experiencing economic growth, demand for HFCs is expected to continue rising, posing a challenge to achieving the consumption freeze by 2024.

54. The biggest demand for HFC refrigerants used in the servicing sector comes from RAC used by commercial subsectors, including supermarkets, convenience stores, restaurants and processed food outlets, followed by the food cold chain, and industrial subsectors including dairy, fisheries, beverages and textiles.

[15] As per the letter of 5 August 2024 from the Ministry of Production of Peru to UNEP.

Energy demands by RAC equipment

55. In relation to the consumption of electrical energy, on which RAC equipment mostly depends, the 2022 National Energy Balance stratifies the sectors by their electricity consumption, with the following results: commercial (13.7 per cent), residential (20.3 per cent), industrial (24.4 per cent), and metallurgical mining (34.2 per cent). These sectors cumulatively represent approximately 92.7 per cent of the country's total electrical energy consumption. Particularly, commercial refrigeration devices (self-contained equipment, cold rooms, packaged condensing units, process chillers) are used in hotel and tourism, supermarkets and industrial processes (such as food, fishing, and agriculture production and transport). In some types of commercial buildings (e.g. supermarkets), cooling accounts for up to 50 per cent of the building's energy consumption. According to the 2018 Residential Energy Consumption and Use Survey, refrigeration and air-conditioning represent around 40 per cent of final electricity consumption.

KIP and energy efficiency

56. With the Kigali Amendment entering into force, Peru is implementing measures and programmes to reduce the consumption of HCFCs and HFCs while promoting the use of available technologies that allow energy-efficiency savings together with the application of low-GWP refrigerants. In this sense, some of the main challenges that have been identified include aspects of an ineffective information mechanism, with key stakeholders, end-users and economic agents not being aware of new technologies; price distortion when energy is heavily subsidized; and lack of access to capital due to the high initial cost of new technologies. To overcome some of these barriers, it is important to implement programmes to encourage investment in energy-efficiency measures, which is the purpose of the present pilot project.

Proposed activities

57. Activities with their cost breakdown (as initially submitted) are described below:

(a) *Supporting the implementation of policies and monitoring the energy efficiency of RAC equipment*: Conduct a regulatory gap analysis and report for the establishment of the MEPS for RAC equipment;[16] analyse the technical regulations for energy-efficiency labelling and testing-method standards for RAC equipment in Peru and compare them with regional and international market trends; evaluate the existing certification and monitoring mechanisms[17] for RAC equipment in the country; conduct four consultation sessions among policymakers[18] to draft MEPS for RAC equipment, include and promote low-GWP-refrigerant-based RAC equipment in the labelling programme, and update the appropriate rates of energy-efficiency for RAC equipment; and carry out three training workshops for competent authorities, importers and wholesalers on the process of verifying that their equipment meets the standard on energy-efficiency labelling under the framework of Kigali Amendment implementation, with approximately 20 participants in each session (US $40,000);

(b) *Enhancing capacities to maintain/improve the energy efficiency of existing RAC equipment:* Conduct an analysis of the teaching and learning processes related to energy efficiency in the RAC sector, as implemented by vocational training institutes and vocational schools across the country, identify areas for improvement and propose updated training curricula; develop a guide to provide information for the technicians and end users

[16] Domestic refrigeration appliances and air conditioners connected to the electrical network with nominal cooling power, or heating if the product does not have a cooling function of a maximum of 12 kW.

[17] Type of appliance, objective of certification and the labelling program, testing laboratories at the national and regional level; regulatory framework, guarantees to consumers; impact and risk assessment.

[18] General Directorate of Energy Efficiency, Directorate of Environmental Management, National Institute of Quality, National Institute for the Defense of Free Competition, and Customs Department among other main stakeholders.

to verify the RAC system's performance and implement strategies to improve its energy efficiency; deliver six kits[19] to vocational training institutes and basic schools that support the training of technicians in determining RAC system performance and energy efficiency; and conduct four training workshops for a total of 80 trainers and technicians on procedures to check RAC system performance, including diagnosis and repair of the system's failures in order to improve its energy efficiency (US $60,000); and

(c) *Awareness-raising and outreach*: foster the introduction of MEPs, a revised labelling system and the introduction of efficient RAC equipment running on low or zero-GWP refrigerants through different printed materials (posters, brochures, quick guides, factsheets) to be distributed among end users, RAC technicians, and consumers (US $15,000).

Total cost of the pilot project

58. The project is expected to be completed in 36 months after approval, between January 2025 and December 2027, for a total cost of US $115,000, as initially submitted.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

59. The Secretariat has reviewed the project proposal in light of the activities and criteria under decisions 89/6 and 91/65 as well as those to be implemented under stage I of the KIP.

60. In line with decision 91/65, confirmation from the Government of Peru has been received: that the NOU will coordinate with relevant energy-efficiency authorities and national standards bodies to facilitate the consideration of refrigerant transition when developing energy efficiency standards in the relevant sectors/applications; that, if Peru has mobilized or were to mobilize funding from sources other than the Multilateral Fund for energy-efficiency components when phasing down HFCs, the project will not result in the duplication of activities among those funded by the Multilateral Fund and those funded from other sources; that the information on project progress, results and key learning will be made available, as appropriate; that the date of completion of the project will be set as no more than 36 months after the date of approval by the Executive Committee; and that a detailed project report will be submitted to the Executive Committee within six months of the date of completion of the project.

Policy, regulatory and institutional framework

61. The Government of Peru is implementing a labelling system that is enforced by the Energy Efficiency Department of the Ministry of Energy. In response to the Secretariat's enquiry regarding whether the proposed project would result in the development and enforcement of MEPS, UNEP explained that the project would undertake the development of MEPS, including stakeholder consultations at the national level on different aspects of MEPS development, enforcement and periodic update/upgrade, keeping in view the technical and market characteristics of various products. However, it would not result in the enforcement of MEPS as such, as that would encompass activities relating to stakeholder agreement and approval by multiple Government authorities which would require more time.

[19] Each kit includes a: comprehensive digital monitoring equipment for refrigeration circuits, power meter clamp, pipe-clamp thermometer, infrared thermometer with laser, refrigeration system analyzer with two clamp thermometers, anemometer for air velocity, temperature, humidity and pressure measuring instrument.

62. UNEP explained that the Government of Peru is committed to adopting and implementing MEPS. In fact, "Homologation Sheets" for refrigerators and air conditioners have already been formulated and they represent the minimum standards for sustainable public procurement. UNEP added that the pilot project is a pathway to streamline the definition and implementation of the MEPS for RAC equipment imports. The comparative assessment of MEPS to be developed within the framework of this project would help determine the level of risk that the adoption of MEPS might represent for the country's RAC-equipment market.

63. Regarding the present project's integration within other climate-change initiatives, UNEP understands that the expected results of the project itself fall within Article 3 of Peru's Supreme Decree for energy transformation due to climate change[20] and the need to promote programs and policies on the efficient use of energy in the public and private sectors.

64. UNEP confirmed that the General Directorate of Energy Efficiency had been consulted on the current project proposal, and that its views had been appropriately incorporated into the project components. UNEP also explained that the national ozone officer is a member of two technical standardization subcommittees related to RAC, both of which are headed by the General Directorate of Energy Efficiency. Thus, implementing this project would further strengthen existing institutional coordination and would facilitate the implementation of additional policies and regulations on energy efficiency while phasing down HFCs.

65. The Secretariat also sought clarification on whether the Andean Community (CAN)[21] would harmonize MEPS among all its members or whether each country could adopt MEPS according to its circumstances. UNEP reported that the CAN has adopted policies to strengthen regional energy security, promote sustainable development, and integrate the energy markets among its countries. However, the CAN has not yet carried out the harmonization of MEPS.

Technical and cost-related issues

66. Relating to the connection between the present proposal and the approved activities under the KIP, UNEP explained that implementing this project would create linkages to the implementation of the activities under stage I of the KIP. These linkages would help the NOU ensure that the MEPS design supports low-GWP technologies and would assist in the market transition to low-GWP, energy-efficient technologies. This comprehensive pilot project covers different aspects of adopting energy-efficient technology, including strengthening and increasing collaboration among various stakeholders involved in the development of MEPS, updating energy efficiency criteria for sustainable public procurement, and promoting the adoption of ODS-free and low-GWP technology among end users.

67. UNEP added that enhancing capacities to maintain/improve the energy efficiency of existing RAC equipment would be complementary to the regular training of technicians on alternative technology, good practices to avoid refrigerant release, and the maintenance of the equipment's energy efficiency during servicing. Furthermore, the workshops for RAC trainers and technicians proposed in the pilot project are exclusively oriented toward delving into aspects of energy efficiency linked to the selection of low-GWP refrigerants, the calculation of thermal load, equipment selection, and the installation, operation, and maintenance of RAC equipment, given that in each of these procedures there are variables and parameters that must be known and managed to maintain or improve the equipment's energy efficiency.

68. UNEP introduced details of the steps for coordinating, monitoring and reporting on project activities, including the definition of intermediate goals. UNEP confirmed that in addition to the specific

[20] Supreme Decree No. 003-2022 from the Ministry of Environment.
[21] Country members of the CAN are Bolivia, Colombia, Ecuador, and Peru.

reports on different aspects of the pilot project,[22] a progress report would be drafted annually, and that the NOU would be involved in implementing and reporting on this project.

69. The level of funds recommended for the pilot project remains as requested.

Sustainability of the pilot project and assessment of risks

70. By implementing this pilot project, the main country stakeholders will gain experience in identifying challenges and opportunities related to institutional coordination and deciding on the performance of energy-efficient RAC equipment. Furthermore, the capacity building of the NOU and institutions involved in energy efficiency and standards will highlight challenges in the enforcement of MEPS and identify solutions that could address those challenges and facilitate the inclusion of refrigerants' GWP in designing and implementing those standards. This would help support the adoption of low-GWP-refrigerant-based and energy-efficient technologies in domestic refrigeration and residential air-conditioning applications.

71. Six training centres will be provided with tools and equipment to determine the energy performance of RAC equipment, an analysis report, and a proposal to update their RAC training courses curricula. Training workshops will be held for trainers and technicians on procedures to verify the performance of the RAC system, including the diagnosis and repair of system failures to improve its energy efficiency. These actions aim to set the basis for continued training of RAC technicians on energy efficiency after the completion of the pilot project.

72. Regarding external risks, UNEP anticipates that potential changes of authority in the ministries involved might cause delays in the relevant institutions' decisions or actions to approve MEPS, standards, and other regulations. To address such risks, the NOU and UNEP will systematically monitor and assess project progress, identify potential issues that could delay projects and take relevant corrective action to ensure timely completion of the project. Furthermore, institutions responsible for energy efficiency and labelling will be involved in the project monitoring, so that coordinated actions can be carried out and the measures and progress can be evaluated according to their scope of application.

RECOMMENDATION

73. The Executive Committee may wish to consider approving the pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities) for Peru, in the amount of US $115,000, plus agency support costs of US $14,950 for UNEP, noting:

(a) That the Government of Peru has committed to the conditions referred to in decision 91/65(b)(iv)b. to b(iv)d.; and

(b) That the project would be operationally completed no later than 31 December 2027 and a detailed project report would be submitted to the Executive Committee within six months of the date of completion of the project.

[22] Energy-efficiency regulation gaps for adopting MEPS, certification and monitoring mechanisms, inter-institutional coordination, and stakeholder consultations, among others.

Annex I

DRAFT AGREEMENT BETWEEN THE GOVERNMENT OF PERU AND THE EXECUTIVE COMMITTEE OF THE MULTILATERAL FUND FOR THE REDUCTION IN CONSUMPTION OF HYDROCHLOROFLUOROCARBONS IN ACCORDANCE WITH STAGE III OF THE HCFC PHASE-OUT MANAGEMENT PLAN

Purpose

1. This Agreement represents the understanding of the Government of Peru (the "Country") and the Executive Committee with respect to the reduction of controlled use of the ozone-depleting substances (ODS) set out in Appendix 1-A ("The Substances") to a sustained level of zero ODP tonnes by 1 January 2030 in compliance with Montreal Protocol schedule.

2. The Country agrees to meet the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A ("The Targets, and Funding") in this Agreement as well as in the Montreal Protocol reduction schedule for all Substances mentioned in Appendix 1-A. The Country accepts that, by its acceptance of this Agreement and performance by the Executive Committee of its funding obligations described in paragraph 3, it is precluded from applying for or receiving further funding from the Multilateral Fund in respect to any consumption of the Substances that exceeds the level defined in row 1.2 of Appendix 2-A as the final reduction step under this Agreement for all of the Substances specified in Appendix 1-A, and in respect to any consumption of each of the Substances that exceeds the level defined in row 4.1.3, 4.2.3, 4.3.3, and 4.4.3 (remaining consumption eligible for funding).

3. Subject to compliance by the Country with its obligations set out in this Agreement, the Executive Committee agrees, in principle, to provide the funding set out in row 3.1 of Appendix 2-A to the Country. The Executive Committee will, in principle, provide this funding at the Executive Committee meetings specified in Appendix 3-A ("Funding Approval Schedule").

4. The Country agrees to implement this Agreement in accordance with stage III of the HCFC phase-out management plan approved ("the Plan"). In accordance with subparagraph 5(b) of this Agreement, the Country will accept independent verification of the achievement of the annual consumption limits of the Substances as set out in row 1.2 of Appendix 2-A of this Agreement. The aforementioned verification will be commissioned by the relevant bilateral or implementing agency.

Conditions for funding release

5. The Executive Committee will only provide the Funding in accordance with the Funding Approval Schedule when the Country satisfies the following conditions at least eight weeks in advance of the applicable Executive Committee meeting set out in the Funding Approval Schedule:

(a) That the Country has met the Targets set out in row 1.2 of Appendix 2-A for all relevant years. Relevant years are all years since the year in which this Agreement was approved. Years for which there are no due country programme implementation reports at the date of the Executive Committee meeting at which the funding request is being presented are exempted;

(b) That the meeting of these Targets has been independently verified for all relevant years, unless the Executive Committee decided that such verification would not be required;

(c) That the Country had submitted a Tranche Implementation Report in the form of Appendix 4-A ("Format of Tranche Implementation Reports and Plans") covering each previous calendar year; that it had achieved a significant level of implementation of

activities initiated with previously approved tranches; and that the rate of disbursement of funding available from the previously approved tranche was more than 20 per cent; and

(d) That the Country has submitted a Tranche Implementation Plan in the form of Appendix 4-A covering each calendar year until and including the year for which the funding schedule foresees the submission of the next tranche or, in case of the final tranche, until completion of all activities foreseen.

Monitoring

6. The Country will ensure that it conducts accurate monitoring of its activities under this Agreement. The institutions set out in Appendix 5-A ("Monitoring Institutions and Roles") will monitor and report on implementation of the activities in the previous Tranche Implementation Plans in accordance with their roles and responsibilities set out in the same Appendix.

Flexibility in the reallocation of funds

7. The Executive Committee agrees that the Country may have the flexibility to reallocate part or all of the approved funds, according to the evolving circumstances to achieve the smoothest reduction of consumption and phase-out of the Substances specified in Appendix 1-A:

(a) Reallocations categorized as major changes must be documented in advance either in a Tranche Implementation Plan as foreseen in subparagraph 5(d) above, or as a revision to an existing Tranche Implementation Plan to be submitted eight weeks prior to any meeting of the Executive Committee, for its approval. Major changes would relate to:

(i) Issues potentially concerning the rules and policies of the Multilateral Fund;

(ii) Changes which would modify any clause of this Agreement;

(iii) Changes in the annual levels of funding allocated to individual bilateral or implementing agencies for the different tranches;

(iv) Provision of funding for activities not included in the current endorsed Tranche Implementation Plan, or removal of an activity in the Tranche Implementation Plan, with a cost greater than 30 per cent of the total cost of the last approved tranche;

(v) Changes in alternative technologies, on the understanding that any submission for such a request would identify the associated incremental costs, the potential impact to the climate, and any differences in ODP tonnes to be phased out if applicable, as well as confirm that the Country agrees that potential savings related to the change of technology would decrease the overall funding level under this Agreement accordingly;

(b) Reallocations not categorized as major changes may be incorporated in the approved Tranche Implementation Plan, under implementation at the time, and reported to the Executive Committee in the subsequent Tranche Implementation Report;

(c) Any remaining funds held by the bilateral or implementing agencies or the Country under the Plan will be returned to the Multilateral Fund upon completion of the last tranche foreseen under this Agreement.

Considerations for the refrigeration servicing sector

8. Specific attention will be paid to the execution of the activities in the refrigeration servicing sector included in the Plan, in particular:

(a) The Country would use the flexibility available under this Agreement to address specific needs that might arise during project implementation; and

(b) The Country and relevant bilateral and/or implementing agencies would take into consideration relevant decisions on the refrigeration servicing sector during the implementation of the Plan.

Bilateral and implementing agencies

9. The Country agrees to assume overall responsibility for the management and implementation of this Agreement and of all activities undertaken by it or on its behalf to fulfil the obligations under this Agreement. UNDP has agreed to be the lead implementing agency (the "Lead IA") in respect of the Country's activities under this Agreement. The Country agrees to evaluations, which might be carried out under the monitoring and evaluation work programmes of the Multilateral Fund or under the evaluation programme of the Lead IA taking part in this Agreement.

10. The Lead IA will be responsible for ensuring coordinated planning, implementation and reporting of all activities under this Agreement, including but not limited to independent verification as per subparagraph 5(b). The role of the Lead IA is contained in Appendix 6-A. The Executive Committee agrees, in principle, to provide the Lead IA with the fees set out in row 2.2 of Appendix 2-A.

Non-compliance with the Agreement

11. Should the Country, for any reason, not meet the Targets for the elimination of the Substances set out in row 1.2 of Appendix 2-A or otherwise does not comply with this Agreement, then the Country agrees that it will not be entitled to the Funding in accordance with the Funding Approval Schedule. At the discretion of the Executive Committee, funding will be reinstated according to a revised Funding Approval Schedule determined by the Executive Committee after the Country has demonstrated that it has satisfied all of its obligations that were due to be met prior to receipt of the next tranche of funding under the Funding Approval Schedule. The Country acknowledges that the Executive Committee may reduce the amount of the Funding by the amount set out in Appendix 7-A ("Reductions in Funding for Failure to Comply") in respect of each ODP kg of reductions in consumption not achieved in any one year. The Executive Committee will discuss each specific case in which the Country did not comply with this Agreement and take related decisions. Once decisions are taken, the specific case of non-compliance with this Agreement will not be an impediment for the provision of funding for future tranches as per paragraph 5 above.

12. The Funding of this Agreement will not be modified on the basis of any future Executive Committee decisions that may affect the funding of any other consumption sector projects or any other related activities in the Country.

13. The Country will comply with any reasonable request of the Executive Committee, and the Lead IA to facilitate implementation of this Agreement. In particular, it will provide the Lead IA with access to the information necessary to verify compliance with this Agreement.

Date of completion

14. The completion of the Plan and the associated Agreement will take place at the end of the year following the last year for which a maximum allowable total consumption level has been specified in

Appendix 2-A. Should at that time there still be activities that are outstanding, and which were foreseen in the last Tranche Implementation Plan and its subsequent revisions as per subparagraph 5(d) and paragraph 7, the completion of the Plan will be delayed until the end of the year following the implementation of the remaining activities. The reporting requirements as per subparagraphs 1(a), 1(b), 1(d), and 1(e) of Appendix 4-A will continue until the time of the completion of the Plan unless otherwise specified by the Executive Committee.

Validity

15. All of the conditions set out in this Agreement are undertaken solely within the context of the Montreal Protocol and as specified in this Agreement. All terms used in this Agreement have the meaning ascribed to them in the Montreal Protocol unless otherwise defined herein.

16. This Agreement may be modified or terminated only by mutual written agreement between the Government of the Country and the Executive Committee of the Multilateral Fund.

APPENDICES

APPENDIX 1-A: THE SUBSTANCES

Substance	Annex	Group	Starting point for aggregate reductions in consumption (ODP tonnes)
HCFC-22	C	I	23.85
HCFC-124	C	I	0.06
HCFC-141b	C	I	1.79
HCFC-142b	C	I	1.18
Subtotal			**26.88**
HCFC-141b contained in imported pre-blended polyols			27.91
Total			54.79

APPENDIX 2-A: THE TARGETS, AND FUNDING

Row	Particulars	2024	2025 - 2026	2027	2028 - 2029	2030	Total
1.1	Montreal Protocol reduction schedule of Annex C, Group I substances (ODP tonnes)	17.47	8.74	8.74	8.74	0.0	n.a
1.2	Maximum allowable total consumption of Annex C, Group I substances (ODP tonnes)	17.47	8.74	8.74	8.74	0.0	n.a
2.1	Lead IA (UNDP) agreed funding (US $)	288,000	0	360,000	0	72,000	720,000
2.2	Support costs for Lead IA (US $)	20,160	0	25,200	0	5,040	50,400
3.1	Total agreed funding (US $)	288,000	0	360,000	0	72,000	720,000
3.2	Total support costs (US $)	20,160	0	25,200	0	5,040	50,400
3.3	Total agreed costs (US $)	308,160	0	385,200	0	77,040	770,400
4.1.1	Total phase-out of HCFC-22 agreed to be achieved under this Agreement (ODP tonnes)						7.50
4.1.2	Phase-out of HCFC-22 to be achieved in the previous stage (ODP tonnes) 16.35						16.35
4.1.3	Remaining eligible consumption for HCFC-22 (ODP tonnes)						0.00
4.2.1	Total phase-out of HFC-124a agreed to be achieved under this Agreement (ODP tonnes)						0.00
4.2.2	Phase-out of HCFC-124 to be achieved in the previous stage (ODP tonnes)						**0.06
4.2.3	Remaining eligible consumption for HCFC-124 (ODP tonnes)						0.00
4.3.1	Total phase-out of HFC-142b agreed to be achieved under this Agreement (ODP tonnes)						0.00
4.3.2	Phase-out of HCFC-142b to be achieved in the previous stage (ODP tonnes)						***1.18

Row	Particulars	2024	2025 - 2026	2027	2028 - 2029	2030	Total
4.3.3	Remaining eligible consumption for HCFC-142b (ODP tonnes)						0.00
4.4.1	Total phase-out of HCFC-141b contained in imported pre-blended polyols agreed to be achieved under this Agreement (ODP tonnes)						27.91
4.4.2	Phase-out of HCFC-141b contained in imported pre-blended polyols to be achieved in the previous stage (ODP tonnes)						0.00
4.4.3	Remaining eligible consumption for HCFC-141b contained in imported pre-blended polyols (ODP tonnes)						0.00

* Date of completion of stage II as per stage II Agreement: 31/12/2026
** Eliminated during second tranche of stage II, last imported in 2018
*** Eliminated during second tranche of stage II, last imported in 2021

APPENDIX 3-A: FUNDING APPROVAL SCHEDULE

1. Funding for the future tranches will be considered for approval at the first meeting of the year specified in Appendix 2-A.

APPENDIX 4-A: FORMAT OF TRANCHE IMPLEMENTATION REPORTS AND PLANS

1. The submission of the Tranche Implementation Report and Plans for each tranche request will consist of five parts:

(a) A narrative report, with data provided by tranche, describing the progress achieved since the previous report, reflecting the situation of the Country in regard to phase out of the Substances, how the different activities contribute to it, and how they relate to each other. The report should include the amount of ODS phased out as a direct result from the implementation of activities, by substance, and the alternative technology used and the related phase-in of alternatives, to allow the Secretariat to provide to the Executive Committee information about the resulting change in climate relevant emissions. The report should further highlight successes, experiences, and challenges related to the different activities included in the Plan, reflecting any changes in the circumstances in the Country, and providing other relevant information. The report should also include information on and justification for any changes vis-à-vis the previously submitted Tranche Implementation Plan(s), such as delays, uses of the flexibility for reallocation of funds during implementation of a tranche, as provided for in paragraph 7 of this Agreement, or other changes;

(b) An independent verification report of the Plan results and the consumption of the Substances, as per subparagraph 5(b) of the Agreement. If not decided otherwise by the Executive Committee, such a verification has to be provided together with each tranche request and will have to provide verification of the consumption for all relevant years as specified in subparagraph 5(a) of the Agreement for which a verification report has not yet been acknowledged by the Committee;

(c) A written description of the activities to be undertaken during the period covered by the requested tranche, highlighting implementation milestones, the time of completion and the interdependence of the activities, and taking into account experiences made and progress achieved in the implementation of earlier tranches; the data in the plan will be provided by calendar year. The description should also include a reference to the overall Plan and progress achieved, as well as any possible changes to the overall Plan that are foreseen. The description should also specify and explain in detail such changes to the overall plan.

This description of future activities can be submitted as a part of the same document as the narrative report under subparagraph (b) above;

(d) A set of quantitative information for all Tranche Implementation Reports and Plans, submitted through an online database; and

(e) An Executive Summary of about five paragraphs, summarizing the information of the above subparagraphs 1(a) to 1(d).

2. In the event that in a particular year two stages of the Plan are being implemented in parallel, the following considerations should be taken in preparing the Tranche Implementation Reports and Plans:

(a) The Tranche Implementation Reports and Plans referred to as part of this Agreement, will exclusively refer to activities and funds covered by this Agreement; and

(b) If the stages under implementation have different HCFC consumption targets under Appendix 2-A of each Agreement in a particular year, the lower HCFC consumption target will be used as reference for compliance with these Agreements and will be the basis for the independent verification.

APPENDIX 5-A: MONITORING INSTITUTIONS AND ROLES

1. Overall supervision will be provided by the Ministry of Production (PRODUCE), through the National Ozone Office, with assistance from the Lead IA. Consumption will be monitored and determined from official data of import and export of substances as registered by the relevant government departments. The National Ozone Office will compile and report the following data and information each year on, or before the deadlines:

(a) Annual reports on the consumption of the substances to be submitted to the Ozone Secretariat, and

(b) Annual reports on progress in implementing the HPMP to be submitted to the Executive Committee of the Multilateral Fund.

2. The National Ozone Office and the Lead IA will jointly hire a qualified independent entity to conduct a qualitative and quantitative performance assessment of the implementation of the Plan. The agency responsible for evaluation will have full access to relevant technical and financial information related to the implementation of the Plan.

APPENDIX 6-A: ROLE OF THE LEAD IMPLEMENTING AGENCY

1. The Lead IA will be responsible for a range of activities, including at least the following:

(a) Ensuring performance and financial verification in accordance with this Agreement and with its specific internal procedures and requirements as set out in the Country's Plan;

(b) Assisting the Country in preparation of the Tranche Implementation Reports and Plans as per Appendix 4-A;

(c) Providing independent verification to the Executive Committee that the Targets have been met and associated tranche activities have been completed as indicated in the Tranche Implementation Plan consistent with Appendix 4-A;

(d) Ensuring that the experiences and progress is reflected in updates of the overall plan and in future Tranche Implementation Plans consistent with subparagraphs 1(c) and 1(d) of Appendix 4-A;

(e) Fulfilling the reporting requirements for the Tranche Implementation Reports and Plans and the overall plan as specified in Appendix 4-A for submission to the Executive Committee;

(f) In the event that the last funding tranche is requested one or more years prior to the last year for which a consumption target had been established, annual tranche implementation reports and, where applicable, verification reports on the current stage of the Plan should be submitted until all activities foreseen had been completed and HCFC consumption targets had been met;

(g) Ensuring that appropriate independent technical experts carry out the technical reviews;

(h) Carrying out required supervision missions;

(i) Ensuring the presence of an operating mechanism to allow effective, transparent implementation of the Tranche Implementation Plan and accurate data reporting;

(j) In case of reductions in funding for failure to comply in accordance with paragraph 11 of the Agreement, to determine, in consultation with the Country, the allocation of the reductions to the different budget items and to the funding of the Lead IA;

(k) Ensuring that disbursements made to the Country are based on the use of the indicators;

(l) Providing assistance with policy, management and technical support when required;

(m) Timely releasing funds to the Country/participating enterprises for completing the activities related to the project.

2. After consultation with the Country and taking into account any views expressed, the Lead IA will select and mandate an independent entity to carry out the verification of the Plan's results and the consumption of the Substances mentioned in Appendix 1-A, as per subparagraph 5(b) of the Agreement and subparagraph 1(b) of Appendix 4-A.

APPENDIX 7-A: REDUCTIONS IN FUNDING FOR FAILURE TO COMPLY

1. In accordance with paragraph 11 of the Agreement, the amount of funding provided may be reduced by US $192 per ODP kg of consumption beyond the level defined in row 1.2 of Appendix 2-A for each year in which the target specified in row 1.2 of Appendix 2-A has not been met, on the understanding that the maximum funding reduction would not exceed the funding level of the tranche being requested. Additional measures might be considered in cases where non-compliance extends for two consecutive years.

2. In the event that the penalty needs to be applied for a year in which there are two Agreements in force (two stages of the Plan being implemented in parallel) with different penalty levels, the application of the penalty will be determined on a case-by-case basis taking into consideration the specific sectors that lead to the non-compliance. If it is not possible to determine a sector, or both stages are addressing the same sector, the penalty level to be applied would be the largest.